

AN ADDRESS BEFORE  
THE TWENTY-SIXTH  
ANNUAL SESSION  
—OF THE—  
MASSACHUSETTS  
STATE GRANGE

GIVEN BY HENRY H. GOODELL  
*President of the Massachusetts Agricultural College*

HELD AT WORCESTER, MASS.  
*DECEMBER 13, 14, and 15, 1898.*

---

ORIGINALLY PUBLISHED BY  
The Enterprise Printing Co.  
Hudson, Mass.  
1899

## ADDRESS

By H. H. Goodell, President of the Amherst Agricultural College

Given Before the 25th Annual Meeting of the Massachusetts State Grange

Worcester, MA

December 15, 1898, 2PM

Some few months ago I received a letter from a man in New York, a member of a reputable business firm, stating that his business took him largely among the people of Mexico and the different States of South America; that he found there young men eager and ready for education, if only they knew where to go; that he had examined the catalogues of different institutions and had made up his mind that the Massachusetts Agricultural College offered just the advantages they wanted, and then he wound up by saying that he felt sure that he could influence these young men, and he wanted to know how much per head I would pay for boys delivered at the college. Well, the next morning I went into chapel, and after the exercises concluded I read the letter, and then I said: "Young men, what are you worth? What is your market value to-day? Not very much, I trow. But its not your present worth we are taking into consideration. It's not what you are, but what you may be. And so we bear with you and labor with you and coax you, and drive you if needs be, never knowing, but always hoping, that among you will be found the one who shall discover the spot in which to place the lever that shall move the world. It is a glorious thing to be a young man or a young woman, with all the possibilities of life widening and spreading out before you till lost in the dimness of eternity. But it is infinitely more glorious to look back at the close of life and feel that you have grasped some of these possibilities and left the world a little better, a little brighter for your existence in it. And there always comes to me, when thinking of you, the old Norse saga which runs: "Praise the ice when it is crossed, the beer when it is drunk, the wife when she is dead, the boy when he has become a man." My friends, we plant our peach pits and know not what kind of fruit will come of the tree that springs up. But we can bud our trees, and with tolerable degree of certainty foretell the result. Not so with the human pit. We plant our boys in our schools and colleges and we bud and graft and diligently cultivate, but no human eye can penetrate the future and tell us what the harvest will be. And so, looking forward, praying and hoping, we exclaim: "Thank God!" when each one has risen to the full stature of manhood.

I am expected this afternoon to tell you about the College and Experiment Station, and what they have done to help you and make your life a little more worth living. And I am going to commence by asking you a question: What is the best thing you can do for your boys and girls? And the answer promptly comes, "Give them the best education possible. Put into their hands the tools that shall enable them to carve out for themselves an honorable place in the world. Give to them the equipment that shall enable them to become honest, just, God-fearing citizens, doing their duty and doing it well, whatever their rank or station in life." This is the education I want to speak to you about to-day—an education so thoroughly practical, and yet so many sided, that it will give your

young men and women a greater number of chances in the struggle for existence than those graduating from the so-called classical or professional colleges. But please dismiss from your minds at the outset that this is what I have so often heard it called, a poor man's college. I protest against the name. There is no poor man's college, just as there is no rich man's college. The rich and the poor fare alike, and the son of a man in affluent circumstances gets no greater privileges nor better advantages of education than the poor boy. The son of the poorest laboring man is worth of the best education to be had. He ought to have it, and ought not to be satisfied with anything less than the very best. "The truth is," says Gilman, "that in our country all belong to the industrial classes. All are intent on work. No birthright, no entailed estate, no aristocratic title, no official position exempts the American from laboring with brain or hand for the benefit of his fellowmen and the promotion of general civilization." The boast we have been accustomed to make of our whole public school system that the children of the poor and rich fraternize, is still a reality in your college, which crowns the entire educational forces of the State. We may still make the famous reply of Professor Agassiz to an English gentleman, who, at an educational meeting in Boston, shocked his auditors by saying: "I do not understand how you conduct your public schools. How do you know that your child will not be obliged to sit by a washwoman's child or a blacksmith's child?"

Professor Agassiz instantly retorted: "The glory of our country is that we have no wash-woman's children or blacksmith's children as such, and all we have to fear is that the wash-woman's children will go ahead of our children and leave them in the background."

One more false impression I beg you to correct in your minds, and that is that the college is in any sense a trades school or a mechanical school. That is the part of instruction, not of education. You instruct the boy in holding the plow and laying the drain, then education steps in and teaches when and where to plow, and the principles of mathematics from which to solve the problem of draining the fields. And I submit that you do not send your sons to college to learn how to perform the practical operations which are infinitely better learned at home on the farm; but to master those principles on which their action depends—in other words, to learn the why, the when, the where—the three W's of education, just as in olden days the three R's (reading, riting, and arithmetic) were the three factors in instruction.

One practical experience of only a few minutes' duration with the business end of a cow, when trying to milk on the wrong side, will teach a boy more quickly and in a more emphatic manner than by hours of theory. Instruction is narrow, one-sided building up on elemental data. Education is general, all-embracing, drawing forth, implying not so much (as Webster has it) the communication of knowledge as the discipline of the intellect, the establishment of principles and the regulation of the heart. Instruction builds up, education takes out. It draws out the latent energies.

It touches every phase of the mental, moral and physical life of man, and whatever it touches it illumines and lends a clearer insight into its true meaning. It leads us along pathways strong with glittering facts and principles, and we take those isolated facts and grouping them together establish certain laws. We take those principles and from them deduct logical results. No height so great that it may not aspire to reach it. No depth so low it may not seek to sound it. Down into the regions of the infinitely small, whither only the most searching microscopes carry the sight; up into the regions of the infinitely large,

whither only mightiest telescopes lift our struggling vision; among the mechanisms of the atomic hosts that people a single leaf, and among the mechanisms of those swarming Celestial empires, whose starry banners sweep our nightly skies, it is everywhere the same.

Education holds the master key that unlocks the secrets of mind and matter. The great father and founder of all fruitful investigation, Lord Bacon, says: "The eye of the understanding is the eye of the sense; for as you may see great objects through small crannies or levels, so you may see great axioms of nature through small and contemptible instances."

The great founder of all the agricultural and mechanical colleges in this country, Senator Morrill of Vermont, this interprets his own bill: "Obviously, not manual, but intellectual instruction was the paramount object. It was not provided that agricultural labor in the field should be practically taught any more than the mechanical trade of a carpenter or blacksmith should be taught. It was a liberal education that was proposed. The act of 1862 proposed a system of broad education by colleges not limited to a superficial and dwarfed training, such as might be supplied by the foreman of a workshop or by a foreman of an experimental farm. If any would have only a college with equal scraps of labor and instruction, or something other than a college, they would not obey the national law. Experience in manual labor, in the handling of tools and implements, is not to be disparaged; in the proper time and place it is most essential, and generally something of this may be obtained either before or after the college term, but should not largely interfere with the precious time required for a definite amount of scientific and literary culture, which all earnest students are apt to find far too limited."

My friends, the history of education shows, the world over, that there can be no such thing as a satisfactory system of education for the masses of the people, unless it be fed by a large and liberal provision of higher education. The higher education is to the common schools as the ocean to the mountain spring—continually sending back the dew and the rain to supply them; it is as the tree to the fruit; it is as the sun to the planets—holding all in the appointed course. From the higher institutions come not only the teachers to lead and guide the lower, but that great body of learning and intelligence which creates, molds and enriches the public sentiment which supports the common schools. Paraphrasing a striking remark of Professor Huxley, I would say that before our educational system can be fully worthy of the name there must be in every Massachusetts corn field and country town the foot of a ladder, the upper end of which shall reach to the top of the Massachusetts Agricultural College. And the time must come when it will be quite as natural for a pupil to look forward from the High School to work in the college, as to look forward from the grades, or grammar schools, to work in the High.

Having now briefly unfolded to you the scheme of an education which reaches every side of a man's life, his intellectual and moral, as well as his physical nature, let me briefly follow out our course of study and show the opportunities offered. If you look upon the whole system as a building, you will find it reared somewhat after this fashion: Agriculture, the solid foundation, laid deep, and strong; botany, chemistry, zoology and mathematics the four corner stones, while the walls are solidly built up with English, horticulture, floriculture and forestry on the one side—English, physiology, entomology, comparative anatomy of the domestic animals, and veterinary on the other—English, mechanics, physics, civil engineering and geology on the third, and English, French,

German, political economy, lectures in law and constitutional history, on market gardening, fruit culture, floriculture, veterinary, medicine, botany, the fourth. Do you see how wide the range of subjects: Civil engineering, geology, astronomy, political economy, constitutional and general history, drawing and military.

You will find that if you want to become a chemist, every facility will be given you. If you want to become a good botanist, few places will offer you better instruction. If you want to become a good entomologist, you will have to search the length and breadth of the land, nay, of the whole world, to find equal opportunities. If you want to become a good civil engineer, the foundations will be laid for you broad and deep. You will find, if you enquire, that the course covers such extensive grounds in botany, chemistry and physiology that graduates entering veterinary or medical schools will be allowed one year's time. And you will further find that the study of your own language is made the basis of all study, is interwoven with every course; in fact, is the warp and woof of every branch you pursue.

The laboratory is the pivot on which all education wheels. It is the nut on the other side of the beam which holds the bolt and prevents it from drawing through. it drives home and clinches the theories advanced in the recitation room. What a man has himself performed he can never forget, and the educated hand and trained eye never lose their cunning till sense and motion cease in the absolute repose of death. Taking advantage then of this strong right arm of education, we have planted our laboratories in every department. In the botanical, to study plant disease and their remedies; in the horticultural, to test the different varieties of fruits, flowers, vegetables and the effect of crossing and pollination; in the entomological, to breed the crawling, creeping, flying scourges that assail our crops, and find out the most effective poisons that will exterminate them without injury to the plant. In the chemical, to resolve compounds into their component parts and reassemble them into other useful or destructive combinations; in the physical, to study the principles of draft and mechanics or the wondrous powers of electricity; in the agricultural, the nature of soils and the fertilizers to be added or withheld; in the veterinary, the hygienic principles affecting the health of your domestic stock; in the drill hall, to set your boys up and give them a strong and manly body the fit accompaniment and guardian of a strong and man'y soul.

And all this, my friends, has been directly in your interests. Our trained investigators are pushing their inquiries into every nook and corner of the vast domain of nature. All things have been laid under contribution and made to minister to them. The earth, the air, the water have each in turn given up their secrets. Like the All-Seeing One, the hundred-eyed Argus of Antiquity, or Briareus of the hundred hands, they have suffered nothing to escape their close scrutiny and inquiry. From the pure raindrops of heaven to the drainage waters of the earth, and from the capture and imprisonment of the free nitrogen of the atmosphere, to the composition, utilization, and value of town sewage, they question them all, and whether they answer in the tongue of the chemist, the botanist or the engineer, the answer has invariably been in the direct interests of practical, progressive agriculture.

The courses of which I have been speaking thus far all belong to the regular course of four years, ending in the degree of Bachelor of Science. For this a certain, definite amount of preparation is required, and regular entrance examinations are held. These are intended for those who cannot afford a four years' stay. There are eleven courses,

covering all practical matters connected with agriculture, botany, chemistry, diseases of plants and animals, feeding of stock, etc. And along with this we have a dairy school, where the most advanced instruction is given on all subjects pertaining to milk and butter. Last year we had as a student a man who had been for some years at the head of a coöperative creamery in Connecticut, but he came to the college to study pasteurization and sterilization, bacterial ferments and butter cultures. Instruction in all these courses, the four years, the eleven weeks and the dairy school is absolutely free to any boy or girl living in Massachusetts. All that is necessary is to procure the signature of the Senator of your district to a blank which will be furnished on application to the college. But still better than this the state puts into your hands yearly a certain sum of money to be expended in paying for work done by students, whose circumstances require aid.

Sum up your advantages now and you find first, tuition free; second, an opportunity offered to help pay your way; and third, the best practical education to be found in the Commonwealth at a minimum price. Is it not worth the effort? Can you secure any good thing without working for it? Can you ever reach the crown without fighting your way up to it?

Turning now for a few moments to the second great division in our scheme of education, we come to that of experimentation. The station, the, is really the great laboratory to the whole college, where the student may see worked out those great problems on which our comfort, nay, our very lives, depend. We are doing for you what you cannot afford to do for ourselves—namely, trying, testing, analyzing fertilizers and feed stuffs, growing all kinds and varieties of fruits and vegetables, investigating every question sent into us, even though it may take years to do it and hundreds of dollars to carry it on, and then publishing the results and sending them out free to you in our bulletins.

I do not believe you have the slightest idea of this work. We are doing, in concentrated feeds, what has been done in fertilizers, giving you safeguards and guarantees for what you buy. We are doing in plant disease what has been done for years in the animal economy, and an immense field has opened up. We are working out problems in feeding rations, in the dairy, in the insectary, and in fact, in every point that touches your life and your interests.

The number of bulletins and reports sent out, by the forty-eight stations united, is something prodigious. In 1894, having collected statistics, I made the following report: Each one of these stations is required by law to issue a quarterly bulletin containing the results of investigations on matters of importance to the farmer, and an annual report, summing up the operations of the year. These bulletins and reports are sent free to all the newspapers and to any person applying for them within the limits of their State. This does not seem a very heavy burden on the post-office department of Uncle Sam when you consider each station by itself. But the aggregate is something astounding.

In the year 1893 there were issued, from forty-five out of the forty-eight stations, 317 bulletins and reports, containing 89,191,270 printed pages. There were handled at the offices, from which they were mailed, 2,351,955 separate pieces, weighing 322,236 pounds. If you add to this the matter distributed free from the office of Experiment Stations at Washington and the Department of Washington, you will have to multiply the figures already given five or six times.

We have now very briefly outlined the two departments; namely, the instructional and the experimental, in our course of education, and the question naturally arises: Is this education as practical as it is claimed? Does it suit the mass of those attending the college and fit them for the various callings and professions of life? We base our claim upon the varied interests represented by our boys in the choice a profession. Let them speak for themselves. In the brief history of the college, one score years and ten, 1,096 men have attended the college and 510 graduated; eighty-seven have passed away, fifteen only from among the graduates and seventy-two from the remainder. Of the living, 348 are in agricultural pursuits, distributed as follows: Farmers, 186; farm superintendents, 23; market gardeners and florists, 46; veterinarians, 16; creamery managers, 6; stock and poultry raisers, 10; entomologists, 8; officers in Experiment Stations, 19; in the fertilizer business, 12; teachers in agricultural colleges, 22. Other industries are represented by chemists, 9; civil engineers and architects, 43; electricians, 10; mechanics, 40; employed on railroads, 15; dentists, 6; druggists, 7; teachers, 34; ministers, 8; students for advanced degrees, 39; postal clerks, 7; doctors, 40; journalists and publishers, 18; in the army and navy, 5; lawyers, 20; and in business, 270.

Our graduates are found in every State, filling positions of honor. The record is a good one. We have furnished Japan with one president and seven professors. We have given presidents to Rhode Island and North Dakota, and a vice-chancellor to Indiana. We have sent five professors to Rhode Island, two each to Alabama, Michigan, Ohio, Mississippi, Missouri, Tennessee, Indiana, Connecticut and New Hampshire, and one of each to Delaware, Minnesota, Illinois, Virginia, Maine, Colorado, Texas and Maryland.

Yale has drawn upon our lawyers for an instructor in criminal law and medico-legal jurisprudence; Harvard has called our graduates to preside over her veterinary and dental schools, and Canada has found a botanist for McGill University. We have furnished the vice-director to the office of Experiment Stations at Washington, and directors to Indiana, North Dakota, Vermont, Rhode Island and Brazil, besides filling sixty-three other positions in the different Experiment Stations of the country.

What has the college done for you? It has given to your sons and daughters the most practical education that can be found in the country. It has opened to them avenues of success in every walk and profession of life through ways entirely unknown to you. and all that it asks is that you shall come and enjoy it free of cost. Can you ask for a more priceless boon? What has the college done for the state? It has returned to it 1,000 citizens, honorably discharging their duties to our beloved Commonwealth.

"Strong minds, great hearts, true faith and ready hands;  
Men whom the lust of office does not kill,  
Men whom the spoils of office cannot buy,  
Men who possess opinions and a will,  
Men who have honor, men who will not lie."

What has it done for our country in the hour of her need? It has put twenty-six of her sons in the fore front of battle. One pining away of a broken heart on the shores of Santiago, and one, alas, brother, soldier, hero, now sleeps under a spreading oak in the National Cemetery at Arlington. Wounded in the arm, then shot throughout a vital part of the body, a third time wounded in the leg, and twice more grazed by hostile balls, he

lay all day amid the heat and conflict of the battle, and as the night lengthened into the dawn, he was not, for God took him. He offered up his splendid life on the altar of his country and God accepted the sacrifice.

My friends, we have at the college a catechism which runs something like this: "What do you believe in?" "I believe in the college. I believe in the Agricultural College?" "I believe in the Massachusetts Agricultural College." "Why do you believe in the college?" "Because I have fought under its banner for thirty-one years, and see no reason in my old age to have my faith in it shaken." "Why do not the people of Massachusetts more largely patronize it?" "Because their eyes being blind they do not see what a good, sound, practical, all-round education, one best fitting a man to cope with the duties of life, it offers." "What can you do to open their eyes?" "Make every member of the Grange an apostle to preach this maximum education offered at a minimum price. Enlist every father in the good cause of giving his son the very best the Commonwealth of Massachusetts affords. Win over every mother to bring up her sons with prayers and tears to lay hold of the opportunity offered, and you will then find that the blind will see and the deaf hear, and the ranks of the college will be full."

---

[Originally 1000 copies of the "Worthy Lecturer's address" were set to be printed in pamphlet form.]

Brother James Stockwell moved that 2000 copies of President Goodell's address be printed and distributed among the Granges, and that one be sent to each Lecturer.

A few farewell words were spoken by President Goodell, and he retired from the hall, escorted by Past Masters Elmer D. Howe and James Draper.

The Grange then went into closed session, and after several notices of committee meetings, the report of the Committee on Woman's Work was made by its Chairman, Mrs. C. H. Burleigh.

The report was accepted and ordered printed.

*“Resolved, THAT IT IS THE SENTIMENT OF THIS STATE GRANGE THAT THE PRESENT NAME OF THE AGRICULTURAL COLLEGE SHOULD BE PERMANENTLY RETAINED, BELIEVING IT IS OF VITAL INTEREST TO THE FARMERS OF THE COMMONWEALTH AND ESSENTIAL TO THE WELFARE OF THE COLLEGE.”*

As President Goodell has given us such a comprehensive address the committee deem it unnecessary to make an extended report.

For the Committee,

A. M. Nourse, *Chairman*.

---

*This address and its supplements have been reprinted as a public domain work from the Proceedings of the 26th Annual Session of the Massachusetts State Grange (1899), pp. 69-77.*